

REMARKS

Claims 1-11, 13-15, and 18-20 are currently pending in the present application. Claims 1-11, 13-15 and 18-20 have been amended in the present application, support for which may be found, at least, in the specification at page 28, the second paragraph. No new matter has been added by way of the present claim amendments.

With regard to the present amendment to the specification, the PCT application upon which the present application claims priority (PCT/JP2003/010867) contains the language as amended herein. The amendment is being made to correct an error in the English translation that was made without deceptive intent. It is well known to a skilled artisan in the conventional art that the pulp slurry is filtrated on a wire mesh to remove water of the slurry. No new matter has been added by way of the present amendment to the specification.

Rejections under 35 U.S.C. §102(b) and 35 U.S.C. §103(a)

Claims 1-3, 5-10, 13-15 and 18-20 stand rejected under 35 U.S.C. §102(b)/35 U.S.C. §103(a) as being anticipated by, or in the alternative, obvious over **Auhorn et al.** (USP 4,908,240) (“Auhorn”).

Claims 1-4, 6, 7, 10, 13, 14 and 18 stand rejected under 35 U.S.C. §102(b)/35 U.S.C. §103(a) as being anticipated by, or in the alternative, obvious over **DeWacker et al.** (USP 4,940,741) (“DeWacker”).

Claim 11 stands rejected under 35 U.S.C. §103(a) as being obvious over **Auhorn in view of Niinikoski et al.** (USP 6,753,377) (“Niinikoski”).

Applicants respectfully traverse each of the above rejections.

Legal Standard for Determining Anticipation

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art.” *Brown v. 3M*, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001) “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Legal Standard for Determining Prima Facie Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

"There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in

the art.” *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The Supreme Court of the United States has recently held that the teaching, suggestion, motivation test is a valid test for obviousness, but one which cannot be too rigidly applied. See *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007).

The Supreme Court in *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007) reaffirmed the Graham factors in the determination of obviousness under 35 U.S.C. § 103(a). The four factual inquiries under Graham are:

- (a) determining the scope and contents of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating evidence of secondary consideration.

Graham v. John Deere, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

The Court in *KSR Int’l Co. v. Teleflex, Inc.*, *supra*, did not totally reject the use of "teaching, suggestion, or motivation" as a factor in the obviousness analysis. Rather, the Court recognized that a showing of "teaching, suggestion, or motivation" to combine the prior art to meet the claimed subject matter could provide a helpful insight in determining whether the claimed subject matter is obvious under 35 U.S.C. § 103(a).

Even so, the Court in *KSR Int'l Co. v. Teleflex, Inc.*, *ibid.*, rejected a rigid application of the "teaching, suggestion, or motivation" (TSM) test, which required a showing of some teaching, suggestion, or motivation in the prior art that would lead one of ordinary skill in the art to combine the prior art elements in the manner claimed in the application or patent before holding the claimed subject matter to be obvious.

Discussion of the Cited Prior Art

The presently claimed invention is directed to a method of making paper and a method of improving the stiffness of paper which comprises the internal addition of a polymer emulsion to a pulp slurry. The polymer emulsion of the invention is obtained by emulsion polymerization of vinyl acetate in the presence of a natural cationic polymer, such as starch or a cationic starch.

Auhorn merely discloses coating a composition on paper, and does not teach or suggest the internal addition of the composition to the papermaking slurry. Similarly, DeWacker merely shows addition onto fiber web by spraying, roll-coating, etc. as discussed at col. 8, lines 16-18 and 51-54, failing to teach or suggest the requisite claim limitation of internally adding the composition to the papermaking slurry. Accordingly, neither Auhorn nor DeWacker teach or suggest each and every limitation of the presently claimed invention.

With regard to claim 11 (now cancelled, the subject matter of which presently has been added to claim 1), Auhorn and Niinikoski cannot be combined to arrive at the presently claimed invention. Auhorn shows vinyl acetate and vinyl propionate as the monomer, in column 4, lines 11-15, however they are disclosed in an amount of 35 to 80 wt.% of the composition, which falls outside of the scope of the claimed invention. Auhorn also shows that a decomposed starch is used,

having a viscosity of 0.04 to 0.50 dl/g, 0.3 to 0.5 dl/g or 0.04 to 0.3 dl/g, in column 5, lines 42-48, where some of the viscosity ranges are not preferred.

Niinikoski shows a surface-sizing agent of starch. Niinikoski shows 10 dl/g in Example 1, 5 dl/g in Example 3, 1.5 dl/g in Example 4, 0.07 dl/g in Comparative Example 1, 0.05 dl/g in Comparative Example 2. Auhorn and Niinikoski are different arts from each other because both fail to show use of a starch as a stabilizer for polymerization or emulsion polymerization. The starches of both Auhorn and Niinikoski are different from examples of the natural cationic polymer of the invention because of their viscosity.

In anticipation of a potential combination of DeWacker and Niinikoski, Applicants respectfully submit that these references cannot be combined to arrive at the presently claimed invention.

DeWacker shows fiberboard, in column 1, lines 6 to 12 and a surface modification of fiberboard for platen test, tape test, primer adhesion test, water resistance test, in column 9, line 45 to column 10, line 16. DeWacker shows external addition onto paper. If the internal addition is conducted in DeWacker, no surface modification can be obtained.

Niinikoski uses a different paper from DeWacker. Niinikoski shows use of vinyl acetate, in column 3, line 29, but fails to show the used amount thereof. Niinikoski discloses a starch having a high molecular weight, in column 3, lines 7 to 12, and a starch having a viscosity of 1.0 dl/g or larger in claim 1. The reference starch is used for surface-sizing, in column 1, lines 56-59. Addition of starch is carried out at a wet end of a paper-making machine, in page 1, Abstract, and the starch is used for pulp of paper-making, in column 5, line 21. There is no express disclosure of the internal addition of a polymer emulsion, as is required by the present claims. Niinikoski only

discloses that a mixture of starch and polymer is normally added to the paper surface by using a size-press at column 5, line 29. Accordingly, Niinikoski cannot serve to cure the deficiencies of either Auhom or DeWacker.

In view of the foregoing, Applicants believe the pending application is in condition for allowance. A Notice of Allowance is earnestly solicited.

Conclusion

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Monique T. Cole, Reg. No. 60,154 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

By 

MTC John W. Bailey

Registration No.: 32,881

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant